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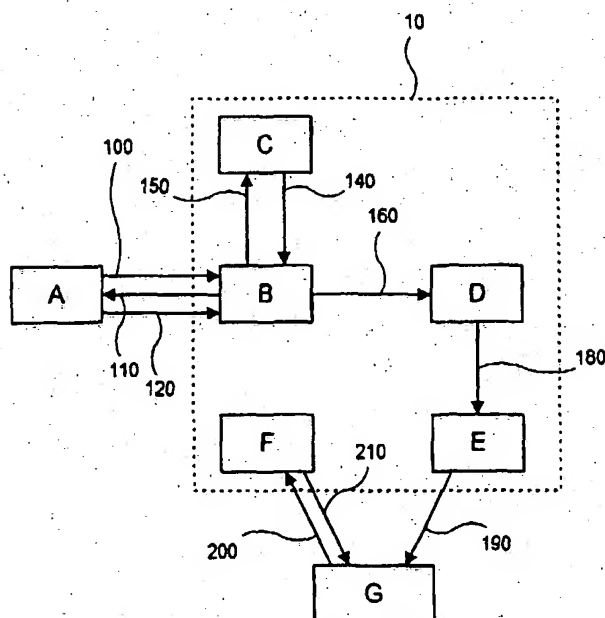
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ELECTRONIC MAIL DELIVERY SYSTEM CAPABLE OF DELIVERING MOTION PICTURE IMAGES ON A REAL-TIME BASIS USING A STREAMING TECHNOLOGY



(57) Abstract: Electronic mail delivery system capable of transmitting and receiving motion picture images on a real-time basis together with an electronic mail message. The mail delivery system of the present invention comprises: a web server for providing pages including a mailframe in accordance of the request of a mail sender and for generating a mailcode embedded with motion picture information such as motion picture lists; a database server for providing the motion picture information to said web server; a mail delivery server for receiving the mailcode, via said web server, resulting from the mail preparation and selection of motion picture images by the mail sender and for transmitting the mailcode to a mail server of a mail receiver in accordance with the transmission request of the mail sender; and a server for motion picture images which saves and transmits, on a real-time basis, a motion picture image file selected by the mail sender, wherein the mail server of a mail receiver transmits the prepared electronic mail message on the mail checking

of the mail receiver and wherein the server for motion picture images transmits streamed motion picture images to the mail receiver on a real-time basis in accordance with the request of the mail receiver without downloading. According to the present invention, the time required for transmitting and receiving an electronic mail can be significantly reduced compared to the case of delivering an electronic mail with an attached motion picture image file. Furthermore, the present invention is more advantageous when a sender delivers an electronic mail with same messages and motion picture images to a plurality of receivers since it can reduce much time.

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**ELECTRONIC MAIL DELIVERY SYSTEM
CAPABLE OF DELIVERING MOTION PICTURE IMAGES ON A
REAL-TIME BASIS USING A STREAMING TECHNOLOGY**

TECHNICAL FIELD

The present invention relates to an electronic mail delivery system and, more particularly, to an electronic mail delivery system capable of delivering and receiving motion picture images on a real-time basis via electronic mail (e-mail).

BACKGROUND ART

In order to deliver motion picture images in conventional motion picture image mailing systems, it was necessary to insert motion picture images in the e-mails themselves. Thus, an e-mail account with an allocated storage capacity of 3 Megabytes was merely capable of delivering and receiving motion picture images of 1-minute duration. Also, it was necessary to download the motion picture images inserted in the e-mails in order to view them in conventional systems. Thus, it was a waste of user's time and there was also concern of damage to the motion picture image files in case of network instability.

DISCLOSURE OF THE INVENTION

Therefore, it is an object of the present invention to provide a mailing system capable of delivering and receiving motion picture images on a real-time basis via e-mail.

It is another object of the present invention to provide a mailing system capable of delivering and receiving long-duration motion picture images regardless of the storage capacity of the e-mail account allocated to the user.

It is still another object of the present invention to provide a mailing system capable of delivering and receiving motion picture images in any type of e-mail accounts such as POP3 accounts or web-mail accounts.

To this end, the motion picture image electronic mail delivery system of the present invention comprises a web server for providing pages including a mail-frame to a mail sender in accordance with a request of the mail sender and for generating a mail code

embedded with motion picture information such as motion picture image lists, a database server for providing the motion picture information to the web server, a mail delivery server for receiving the mail code, via the web server, generated according to mail prepared by the mail sender and the motion picture image selected by the mail sender and for transmitting the mail code to a mail receiver server in accordance with a transmission request of the mail sender, and a motion picture image server for storing and real-time transmitting the motion picture image selected by the mail sender, wherein the mail receiver server transmits the mail when the mail receiver checks the electronic mails, and the motion picture image server transmits streamed motion picture images to the mail receiver on a real-time basis without downloading in accordance with a transmission request of the mail receiver.

It is preferable that the database server stores the motion picture information that enables verification of the motion picture image selected by the mail sender and motion picture location information to be inserted in the mail, the motion picture information and the motion picture location information being provided to the web server in accordance with a request of the mail sender via the web server.

All of the connection between a terminal of the mail server and the web server, between the mail delivery server and the mail receiver server, between a terminal of the mail receiver and the mail receiver server, and between the motion picture image server and the terminal of the mail receiver may be accomplished via a public network. The connection between the web server and the database server and between the web server and the mail delivery server may be accomplished via a public network or a local area network.

Advertisement information may be stored in the database server and the advertisement information may be automatically inserted into the mail or the motion picture image while the mail sender prepares the mail or while the mail receiver receives the mail.

It is preferable that the motion picture information and reproduction tools are coded and inserted into an HTML code of the mail to be received so that reproduction of the motion picture image selected by the mail sender is easy.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram illustrating the motion picture image e-mail delivery system according to an embodiment of the present invention;

FIG. 2 is a diagram describing an example of a mail-frame that is shown on the screen of the terminal of the e-mail sender who is using the motion picture image e-mail delivery system according to the embodiment of the present invention; and

FIG. 3 is a diagram describing an example of an e-mail including a motion picture image that is shown on the screen of the terminal of the e-mail receiver who is using the motion picture image e-mail delivery system according to the embodiment of the present invention.

BEST MODE FOR CARRYING OUT THE INVENTION

The embodiments of the present invention will be illustrated hereinafter with reference to the attached drawings.

FIG. 1 is a block diagram illustrating a motion picture image e-mail delivery system 10 according to an embodiment of the present invention. Referring to FIG. 1, the e-mail delivery system 10 includes a web server B, a database server C, an SMTP (Simple Mail Transfer Protocol) Server D for mail delivery, a receiver mail server E, and a motion picture image server F. The operation of the e-mail delivery system 10 will be described hereinafter. First, the web server B provides 110 pages including a mail-frame to the mail sender A in response to the request 100 of the mail sender A. At the same time, the web server B also sends 150 this request to the database server C, receives 140 motion picture information such as the description, title, and location of the motion picture image. With this information, the web server B generates a mail code including the motion picture information and sends the mail code to the SMTP server D. To illustrate the above process in a more detailed manner, the mail sender A inputs the names and e-mail addresses of the mail sender A and the mail receiver G, the e-mail title, and the mail text in the provided mail-frame, selects the image to be transmitted, and requests 120 mail delivery. In response, the web server B requests 160 to the SMTP server D delivery of the mail including the information input by the mail sender A, and the SMTP server D transmits 180 the mail to the receiver mail server E. The receiver mail server E sends 190 the e-mail to the mail receiver G according to the information input from the web server B. The motion picture image server F shows the

motion picture image file stored therein to the mail receiver G by real-time streaming, when the mail receiver G requests 200 transmission of the motion picture image. Therefore, the mail receiver G does not have to download the motion picture image file when checking his/her e-mails but can view the real-time-streamed images. Here,
5 streaming refers to a technique for opening large-size files such as image files on a real-time basis, whereby the motion picture image file is received and played piece by piece.

The entire connection among the mail sender A, web server B, database server C, SMTP server D, receiver mail server E, motion picture image server F, and mail
10 receiver G can be accomplished by a public network. Alternatively, the connection between the web server B and the database server C, or between the web server B and the SMTP server D can be accomplished by a local area network.

It is also possible to store advertisement information in the database server C and to insert the stored advertisement information in the e-mails and the motion picture
15 images while the mail sender A is preparing the mail or the mail receiver G is receiving the mail.

In addition, it is preferable to insert coded motion picture information and reproduction tools in the HTML code of the mail to be received, so that reproduction of the selected motion picture image selected by the mail sender A becomes easy.

20 FIG. 2 is a diagram describing an example of a mail-frame that is shown on the screen of the terminal of the e-mail sender who is using the motion picture image e-mail delivery system according to the embodiment of the present invention. Referring to FIG. 2, the mail sender can write the mail text 220 while verifying the selected motion picture image 210 by clicking the play button 230. Advertisement
25 statements are included in a certain location within the mail-frame. It is also possible to make advertisements appear in the motion picture image 210 itself instead of the advertisement statements. For example, it is possible to insert advertisements at the beginning and the end of music videos, so that the mail senders can view the advertisements.

30 FIG. 3 is a diagram describing an example of an e-mail including a motion picture image that is shown on the screen of the terminal of the e-mail receiver who is using the motion picture image e-mail delivery system according to the embodiment of the

present invention. Referring to FIG. 3, it is shown that the mail receiver clicked the headline 300 of the newly received e-mail to open the mail text 310 and the real-time-streamed motion picture image 320 in the window at the lower right hand side. Because coded motion picture information and reproduction tools are inserted in the HTML code of the mail to be received, the mail receiver can view the motion picture images 320 by clicking the play button.

INDUSTRIAL APPLICABILITY

As illustrated above, the e-mails according to the present invention are more dynamic and realistic compared with HTML or text-only e-mails. In addition, the present invention has an advantage that it takes shorter time to transmit and receive the e-mails compared with conventional e-mails including motion picture images within themselves. Because real-time streaming technique is utilized, the size of the entire e-mail typically does not exceed 10 Kilobytes even though motion picture images are delivered, such that the e-mails according to the present invention can be used regardless of the storage capacity of the e-mail accounts allocated to the users. The present invention has another advantage that the transmission time becomes shorter to a greater degree when e-mails including identical content and motion picture images are delivered to a plurality of receivers.

The present invention can be applied to a variety of circumstances. For example, it can be applied to advertisements of music videos of singers, advertisements of performances of actors and actresses, and advertisements of companies.

WHAT IS CLAIMED IS:

1. A motion picture image electronic mail delivery system comprising:
 - a web server for providing pages including a mail-frame to a mail sender in accordance with a request of the mail sender and for generating a mail code embedded
 - 5 with motion picture information such as motion picture image lists;
 - a database server for providing the motion picture information to the web server;
 - a mail delivery server for receiving the mail code, via the web server, generated according to mail prepared by the mail sender and the motion picture image selected by the mail sender and for transmitting the mail code to a mail receiver server in
 - 10 accordance with a transmission request of the mail sender; and
 - a motion picture image server for storing and real-time transmitting the motion picture image selected by the mail sender,
 - wherein the mail receiver server transmits the mail when the mail receiver checks the electronic mails, and the motion picture image server transmits streamed motion
 - 15 picture images to the mail receiver on a real-time basis without downloading in accordance with a transmission request of the mail receiver.
2. The motion picture image electronic mail delivery system as claimed in claim 1, wherein the database server stores the motion picture information that enables
- 20 verification of the motion picture image selected by the mail sender and motion picture location information to be inserted in the mail, the motion picture information and the motion picture location information being provided to the web server in accordance with a request of the mail sender via the web server.
- 25 3. The motion picture image electronic mail delivery system as claimed in claim 1, wherein the connection between a terminal of the mail server and the web server, between the mail delivery server and the mail receiver server, between a terminal of the mail receiver and the mail receiver server, and between the motion picture image server and the terminal of the mail receiver are all accomplished via a public network.
- 30 4. The motion picture image electronic mail delivery system as claimed in claim 3, wherein the connection between the web server and the database server and between

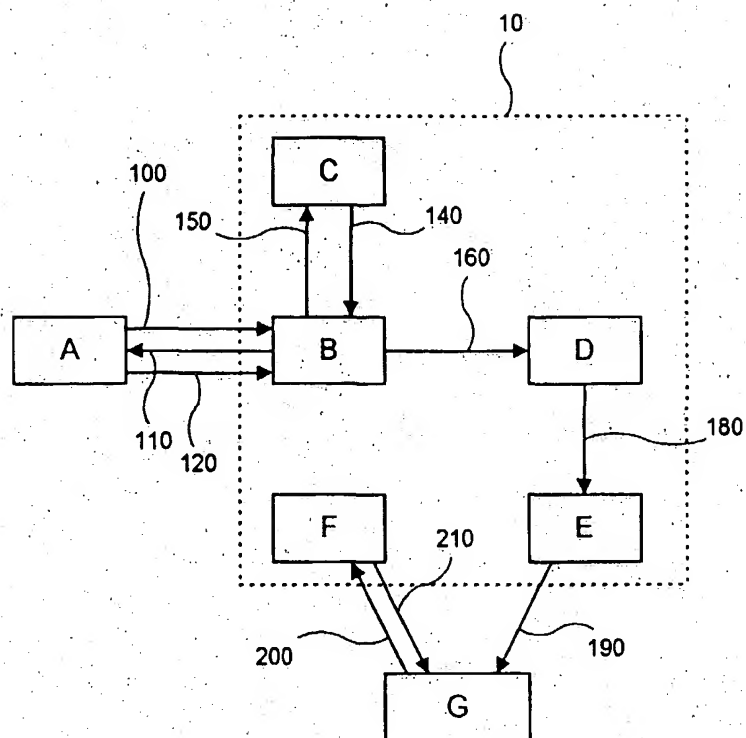
the web server and the mail delivery server are accomplished via a public network or a local area network.

5 5. The motion picture image electronic mail delivery system as claimed in claim 1, wherein advertisement information is stored in the database server and the advertisement information is automatically inserted into the mail or the motion picture image while the mail sender prepares the mail or while the mail receiver receives the mail.

10 6. The motion picture image electronic mail delivery system as claimed in claim 1, wherein the motion picture information and reproduction tools are coded and inserted into an HTML code of the mail to be received so that reproduction of the motion picture image selected by the mail sender is easy.

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FIG. 1



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FIG. 2

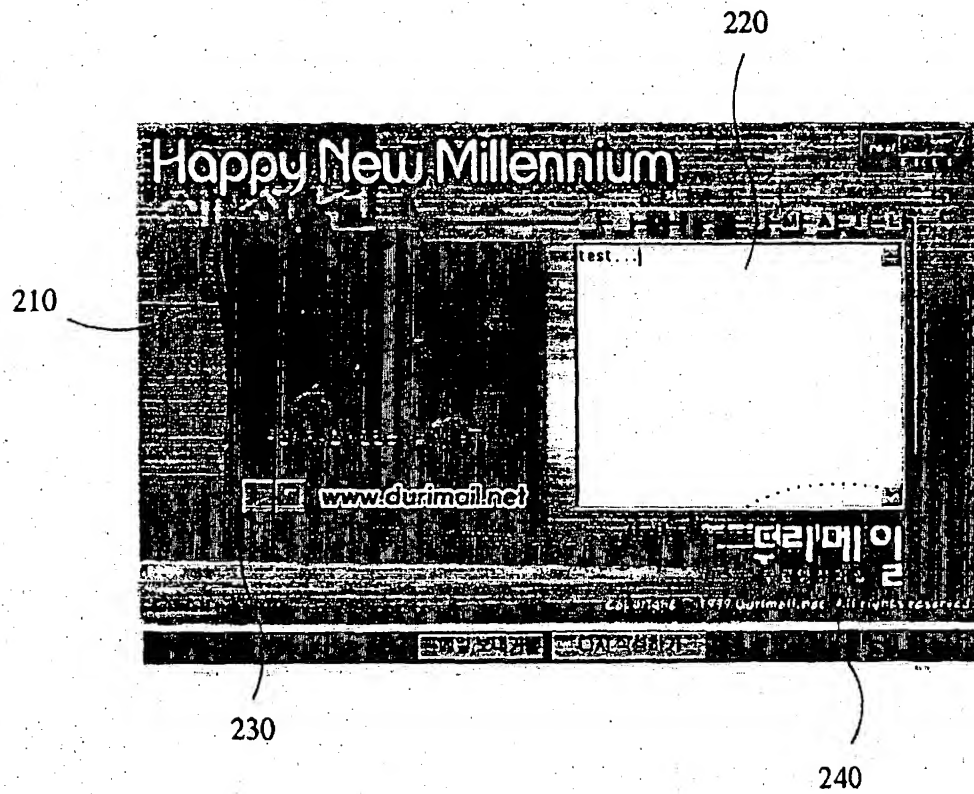
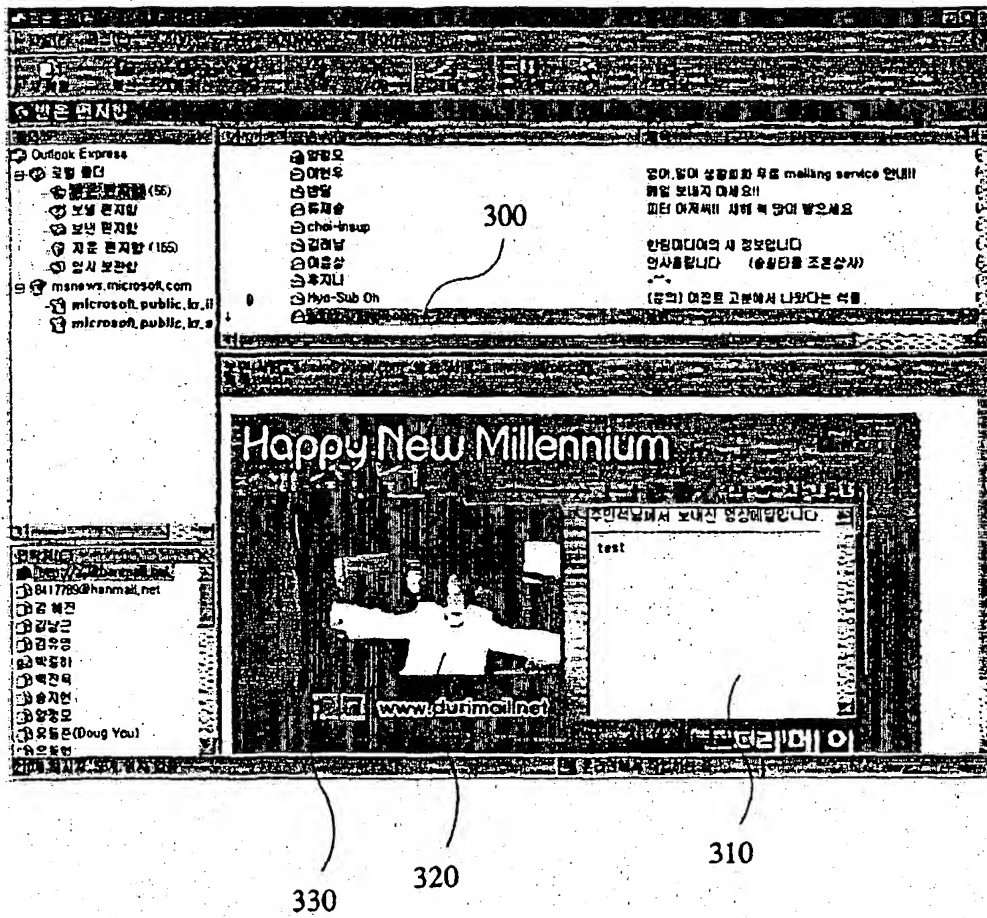


FIG. 3



INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR00/01427

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 G06F 15/163

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 G06F 15/16

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Patents and applications for inventions since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

http://www.delphion.com, (motion* <near> picture*) <and> transfer* <and> ((real* <near> time*) <or> mail*)
mail* <and> streaming* <and> server*

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P. X	KR 2000-59516 A (Im young-hwan) 5 October 2000 See abstract	1
Y	JP 8-237298 A (MATSUSHITA) 13 September 1996 See abstract	1
A	US 5912697A (Hitachi, Ltd.) 15 June 1999 See abstract	1-6
A	US 5928330 A (Motorola, Inc.) 27 July 1999 See abstract	1-6
A	WO 97-22201 A (CAMPBELL etc.) 19 June 1997 See abstract	1-6



Further documents are listed in the continuation of Box C.



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Date of the actual completion of the international search

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Date of mailing of the international search report

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